

Ergi

# UK Patent Application GB 2 176 239 A

(43) Application published 17 Dec 1986

(21) Application No 8514529

(22) Date of filing 8 Jun 1985

(71) Applicant

Ford Motor Company Limited (United Kingdom),  
Eagle Way, Brentwood, Essex

(72) Inventor

Garry Paul John Hague

(74) Agent and/or Address for Service

A Messudam & Co.  
24 Broadway, Leigh on Sea, Essex SS9 1BN

(51) INT CL:  
F01N 7/16

(52) Domestic classification (Edition H):  
F1B F320 FM

(56) Documents cited

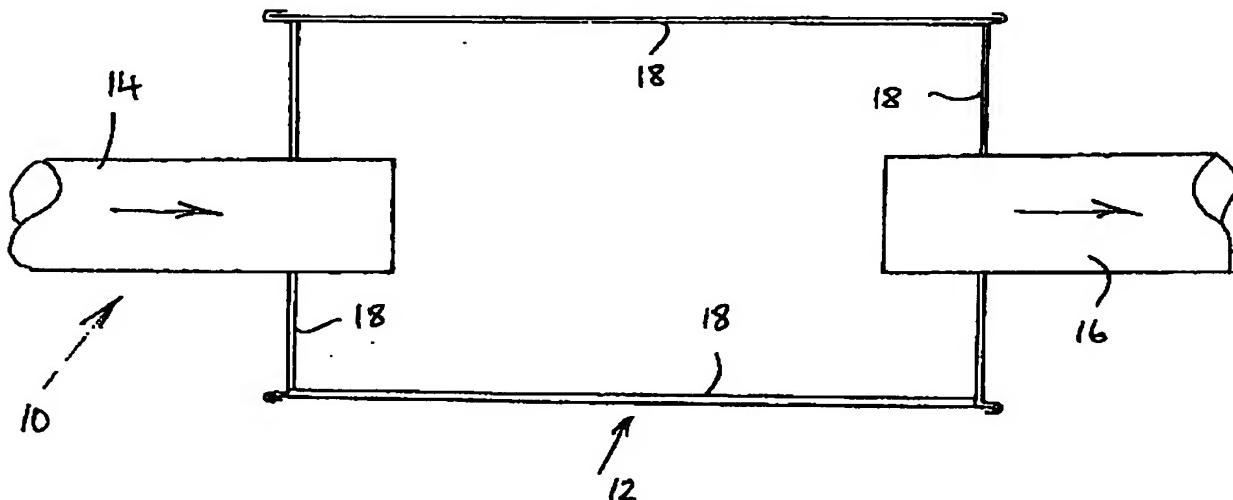
GB 1546193 GB 1405051 US 4333545

(58) Field of search

F1B  
Selected US specifications from IPC sub-class F01N

(54) Exhaust muffler

(57) In an exhaust muffler the sheet metal walls of an enclosure 12 are coated on their internal faces with a layer 18 of a plastics material resistant to corrosion from the condensates likely to collect in the muffler. Baffles inside the muffler may also be coated with corrosion resistant plastics material.



BEST AVAILABLE COPY

GB 2 176 239 A

**SPECIFICATION****Exhaust muffler**

5 This invention relates to an exhaust muffler for use in muffling or silencing the exhaust of an internal combustion engine.

Exhaust mufflers are boxes containing baffles and/or sound deadening material, and  
 10 are located in an exhaust pipe somewhere between the engine and the downstream end of the pipe. Mufflers unfortunately tend to collect liquid condensates from the exhaust gases, and these condensates are highly corrosive,  
 15 resulting in undesirable corrosion damage to the muffler.

According to the present invention, there is provided an exhaust muffler comprising an enclosure having walls of sheet metal, an exhaust gas inlet to the enclosure and an exhaust gas outlet therefrom and noise muffling components inside, wherein the sheet metal walls are coated on their internal faces with a layer of a plastics material resistant to corrosion from the condensates likely to collect in the muffler.

If the muffler is mechanically assembled, using a lockseam construction, the sheet metal can be coated with a suitable plastics material  
 30 before assembly.

Accordingly, the invention also provides a method of making a muffler from sheet metal, which comprises coating at least one face of the sheet metal with a layer of a corrosion  
 35 resistant plastics material, and subsequently assembling the muffler from the coated sheet metal with the plastics coated face on the inside of the muffler.

Sheet steel used in muffler construction is  
 40 frequently supplied to the muffler manufacturer with a protective plastics coating. It is normal practice to remove this coating before forming the steel into mufflers, but according to this invention, the protective plastics coating can  
 45 be left in place.

It may be furthermore be desirable to coat internal components of the muffler, such as baffles, with a layer of corrosion resistant plastics material.

50 The invention will now be further described, by way of example, with reference to the accompanying drawing which is a cross-section through a muffler in accordance with the invention.

55 The figure shows a portion of an exhaust pipe 10 including a muffler box 12, an intermediate pipe 14 leading into the box 12 and a tail pipe 16 leading out of the box. The internal walls of the box are lined with a layer  
 60 18 of a suitable plastics material.

This lining of the internal box walls can substantially improve the resistance of the muffler to corrosion caused by corrosive substances collecting inside.

**CLAIMS**

1. An exhaust muffler comprising an enclosure having walls of sheet metal, an exhaust gas inlet to the enclosure and an exhaust gas outlet therefrom and noise muffling components inside, wherein the sheet metal walls are coated on their internal faces with a layer of a plastics material resistant to corrosion from the condensates likely to collect in the muffler.

70 2. An exhaust muffler as claimed in claim 1, wherein the muffler is mechanically assembled, using a lockseam construction, and the sheet metal is coated with a suitable plastics material before assembly.

75 3. An exhaust muffler as claimed in claim 1 or 2, wherein internal components of the muffler, such as baffles, are also coated with a layer of corrosion resistant plastics material.

80 4. A method of making a muffler from sheet metal, which comprises coating at least one face of the sheet metal with a layer of a corrosion resistant plastics material, and subsequently assembling the muffler from the coated sheet metal with the plastics coated face on the inside of the muffler.

85 5. An exhaust muffler constructed substantially as herein described with reference to and as illustrated in the accompanying drawing.

Printed in the United Kingdom for  
 Her Majesty's Stationery Office, Dd 8818935, 1986, 4235.  
 Published at The Patent Office, 25 Southampton Buildings,  
 London, WC2A 1AY, from which copies may be obtained.

2176239

